

Message Text

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ACTION EUR-25

INFO OCT-01 IO-12 ADP-00 EB-11 SCI-06 ACDA-19 CIAE-00

DODE-00 PM-09 H-02 INR-10 L-03 NSAE-00 NSC-10 PA-03

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GAC-01 SCEM-02 EPA-04 CEQ-02 NSF-04 RSR-01 /194 W
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TO SECSTATE WASHDC PRIORITY 5138

INFO AMEMBASSY BONN

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EO 11652 NA

TAGS: TECH, ENRG, EEC

SUB: INTERNATIONAL COOPERATION IN ENERGY R&D

REF: STATE 79551 (NOTAL)

1. SUMMARY. CURRENT US COOPERATION, THROUGH VARIOUS MECHANISMS, WITH EUROPEAN COMMUNITY ORGANIZATIONS ON ENERGY- RELATED R&D IS EXTENSIVE; THE POTENTIAL FOR EXPANDING THIS COOPERATION IN THE NEAR TERM IS ALSO EXTENSIVE. THE MOMENTUM AND APPARENT PRIORITIES
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WHICH CURRENTLY EXIST ON BOTH SIDES OF THE ATLANTIC IN THIS FIELD SUGGEST US CONSIDERATION BE GIVEN WITH FRAMEWORK US PRIORITIES, TO THE BROADEST SPECTRUM OF POSSIBLE MECHANISMS FOR COOPERATION RANGING FROM INFORMAL EXCHANGES OF R& D INFORMATION TO FORMAL JOINT VENTURES ON COSTLY MACHINES AND PROJECTS, WITH MINIMUM ATTENTION AT OUTSET TO INSTITUTIONAL CONSIDERATIONS. END COMMENT

2. MOST, IF NOT ALL, OF THE EC RESEARCH PROGRAM COULD WELL BE CONSIDERED AS ENERGY- RELATED R& D. THE FOUR- YEAR FUNDING LEVEL (1973-1976), AS APPROVED BY THE EC COUNCIL IN FEBRUARY (SEE EC BRUSSELS 628), IS 157 MILLION UNITS OF ACCOUNT (UA, 1 UA EQUAL \$1.19), WITH ADDITIONAL PROGRAMS UP FOR EARLY COUNCIL APPROVAL OF SOMETHING LESS THAN 86 MILLION UA. (AUGMENTATION OF THE CTR PROGRAM- SEE BELOW- IS INCLUDED IN THE LATTER FIGURE.) PROJECTS WITHIN THIS PROGRAM OF ABOVE AVERAGE INTEREST IN AN ENERGY SENSE ARE AS FOLLOWS:

A. CONTROLLED THERMONUCLEAR RESEARCH (CTR). THIS IS PROBABLY THE MOST SIGNIFICANT ENERGY- RELATED R& D CURRENTLY SPONSORED BY THE EC. THIS RESEARCH, WHILE SPONSORED BY THE COMMUNITY, IS CONDUCTED IN MEMBER STATE- OWNED AND - OPERATED FACILITIES THROUGH EC " ASSOCIATION CONTRACTS" WHICH PROVIDES A VERY POSITIVE AND COMPREHENSIVE COORDINATION OF ALL SUCH ACTIVITIES IN THE COMMUNITY. THIS PROGRAM WAS BUDGETED ON A FIVE- YEAR BASIS (1971-1975) AND IS IN THE PROCESS OF BEING INCREASED, AS NOTED ABOVE, TO ACCOUNT FOR A PROTION OF THE FUSION R& D AND PLASMA PHYSICS WORK BEING DONE AT CULHAM LAB- ORATORY IN THE UK. THE APPROXIMATE FIVE YEAR FUNDING LEVEL IS 56 MILLION UA, AS THE EC CONTRIBUTION, AND INVOLVES 132 PERSONS. CTR R& D INCLUDES STELLERATOR AND TOKAMAK WORK AND BASIC RESEARCH. THIS HAS BEEN A RELATIVELY NON- CONTROVERSIAL PROGRAM AND ONE OF THE EC' S MOST MEANINGFUL R& D EFFORTS IN RECENT YEARS.

B. HYDROGEN PRODUCTION FROM WATER USING NUCLEAR HEAT. THIS AND LONG- TERM RADIOACTIVE WASTE STORAGE STUDIES AT ISPRA HAVE APPROVED 7 MILLION UA FOUR- YEAR FUNDING.

C. PLUTONIUM AND TRANS- PLUTONIUM RESEARCH. THIS BASIS RESEARCH EFFORT AT KARLSRUHE HAS APPROVED 22 MILLION UA FOUR- YEAR FUNDING.

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D. REACTOR SAFETY RESEARCH. ISPRA PROGRAMS ON CATASTROPHIC ACCIDENTS, THERMAL AND HYDRAULIC PHENOMENA, FAULT DETECTION, AND STRUCTURAL LIFETIME HAVE APPROVED FOUR- YEAR FUNDING OF 21 MILLION UA.

E. CENTRAL BUREAU OF NUCLEAR MEASUREMENTS. THE GEEL

LABORATORY PROJECT WHICH IS OBTAINING BASIC NUCLEAR DATA HAS APPROVED FOUR- YEAR FUDING OF 20 MILLION UA.

F. ADDITIONAL PROJECTS UP FOR APPROVAL BY THE EC COUNCIL INCLUDE PLUTONIUM RECYCLING IN THERMAL REACTORS, ADVANCED REACTOR STUDIES (HTGR AND LMFBR), AND EC STANDARDS BUREAU, AND ENVIRONMENTAL PROTECTION RESEARCH.

3. IN ADDITION TO THESE PROJECTS WHICH ARE ALREADY OPERATIVE, HAVE BEEN APPROVED BY THE COUNCIL, OR HAVE BEEN SUBMITTED TO THE EC COUNCIL FOR APPROVAL, THE COMMISSION HAS A NUMBER OF OTHER POTENTIAL ENERGY RESEARCH PROJECTS UNDER STUDY. A SPECIAL WORKING GROUP HAS BEEN MEETING INTERNALLY FOR ABOUT SIX MONTHS TO PREPARE PROPOSALS FOR THE COUNCIL' S CONSIDERATION AND HAS NOW DRAWN UP A LIST OF 22 POSSIBLE RESEARCH PROJECTS, INCLUDING ADDITIONAL ASPECTS OF SOME OF THE PROJECTS MENTIONED ABOVE. THIS LIST WILL BE CIRCULATED AMONG THE MEMBER STATES IN THE NEAR FUTURE IN ORDER TO DRAW UP AN INVENTORY OF WORK BEING CARRIED OUT IN THESE AREAS BY NATIONAL RESEARCH PROGRAMS. BASED ON THIS INVENTORY AND ON THE RESPONSES FROM THE MEMBER STATES, THE COMMISSION HOPES TO PREPARE A PROPOSAL ON ENERGY RESEARCH FOR THE COUNCIL' S CONSIDERATION BY THE END OF THE YEAR. (ONE OF PRINCIPAL COMMISSION MOTIVATIONS FOR INITIATING THIS EFFORT WHEN COMMISSIONER HAFERKAMP HAD THE ENERGY PROT- FOLIO WAS TO DEVELOP LIST OF POTENTIAL PROJECTS FOR COOPERATION WITH US IN ENERGY FIELD.)

4. A POSSIBLE FAVORABLE IMPACT ON ENERGY SUPPLIES, FUNDING REQUIREMENTS NOT TOO GREAT FOR COMMUNITY RESOURCES, AND SOME WORK ALREADY IN PROGRESS IN ONE OR MORE MEMBER STATES WERE THE THREE CRITERIA USED BY THE WORKING GROUP IN DRAWING UP ITS LIST OF POSSIBLE RESEARCH PROJECTS. ITS GENERAL GOAL IS TO PRESENT THE COUNCIL WITH SOME PROPOSED PROJECTS WICH, IF SUCCESSFULLY DEVELOPED, COULD CONTRIBUTE TO THE COMMUNITY' S LIMITED OFFICIAL USE

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ENERGY REQUIREMENTS FROM THE POINT OF VIEW OF SECURING SUPPLIES AT AS LOW PRICE AS POSSIBLE.

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RSC-01 PRS-01 SS-15 USIA-12 EA-11 NEA-10 AEC-11 INT-08

GAC-01 SCEM-02 EPA-04 CEQ-02 NSF-04 RSR-01 /194 W

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P R 041744 Z MAY 73

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TO SECSTATE WASHDC PRIORITY 5139

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5. THE 22 PROJECTS, GROUPED UNDER FIVE HEADINGS, ARE AS FOLLOWS:

A. PRIMARY ENERGYPROJECTS; GASIFICATION OR SUBTERRANEAN LIQUIFICATION OF COAL, RESOURCE DETECTION BY SATELLITE, DEEP SEA UNDERWATER EXPLORATION, EXTRACTION OF URANIUM FROM WATER, URANIUM ENRICHMENT (PAPER ALREADY SUBMITTED, SEE EC A-127), PLUTONIUM RECYCLING, AND HORIUM UTILIZATION.

D. PROJECTS CONNECTED WITH ENERGY CONVERSION: BREEDER REACTORS, REACTOR SAFETY, FUSION, NUCLEAR INDUSTRIAL HEATING, LIMITED OFFICIAL USE
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GAS TURBINE CYCLE, GEOTHERMAL ENERGY, AND SOLAR ENERGY.

C. PROJECTS IN ENERGY SECTORS: OFFSHORE REACTORS, BATTERIES FOR ELECTRICAL SORAGE, SUPER CONDUCTORS FOR CABLES AND GENERATORS, AUTOMOBILIES WHICH DO NOT USE HYDROCARBONS, HYDROGEN PRODUCTION FROM WATER.

D. ENVIRONMENTAL PROJECTS: THERMAL TRANSFERS AND RADIOACTIVE AASTE.

E. PROJECTS CONCERNING RATIONAL USE OF ENERGY: UTILIZATION OF RESIDUAL HEAT.

(COMMENT: WHILE THE EC WILL HAVE DIFFICULTY IN GETTING MEMBER STATE APPROVAL FOR R & D IN COMMUNITY FRAMEWORK FOR A NUMBER OF AREAS CITED IN THIS PARAGRAPH, THE LIST SHOULD BE HELPFUL TO US AS GUIDE FOR COMPARISON WITH OUR PRIORITY INTERESTS AND DRAWING UP LIST OF SUBJECTS FOR COOPERATION DISCUSSIONS WITH EC AND MEMBER STATES: INITIATION OF SUCH DISCUSSIONS, IN OUR JUDGEMENT, NEED NOT AWAIT OUTCOME OF EC PROPOSALS TO MEMBER STATES.)

6. THE DEPARTMENT SHOULD BEAR IN MIND THAT THE AREA OF URANIUM ENRICHMENT IS AN IMPORTANT FIELD IN THE OVERALL COMMUNITY ENERGY PICTURE. THE MOST SIGNIFICANT EUROPEAN R&D EFFORTS ARE CONDUCTED BY THE DUTCH- GERMAN- UK TRIPARTITE CENTRIFUGE GROUP THROUGH URENCO AND CENTEC, WHILE OTHER PROGRAMS ARE CONDUCTED NATIONALLY, E. G. BY THE FRENCH CEA (DIFFUSION), THE ITALIAN CNEN (CENTRIFUGE). AND THE GERMAN KARLSRUHE LAB (NOZZLE). SHOULD THE US FEEL THIS IS AN AREA DESERVING FURTHER DISCUSSION WITH EUROPEANS ABOUT POSSIBLE COOPERATION, THE TACTICS FOR DOING SO SHOULD RECEIVE CAREFUL CONSIDERATION, GIVEN THE DIVERSITY OF INTERESTS, BOTH POLITICAL AND COMMERCIAL, IN THE COMMUNITY,

7. RE PARA 2(B) OF REFTEL, FORMAL REPEAT FORMAL EC- US ENERGY R&D COOPERATION AT THE PRESENT TIME IS SOMEWHAT MINIMAL, NOT COUNTING, OF COURSE, THE US- FURNISHED NUCLEAR FUEL FOR RESEARCH FACILITIES. THERE IS, HOWEVER, CONSIDERABLE AND VERY FRUITFUL COLLABORATION BETWEEN US AND EC ASSOCIATED PROGRAMS ON THE BASIS OF SCIENTIST- TO- SCIENTIST EXCHANGES LIMITED OFFICIAL USE LIMITED OFFICIAL USE

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OF INFORMATION, EXCHANGE OF VISITS, PARTICIPATION IN COMMON MEETINGS, ETC. A PARTICULARLY GOOD EXAMPLE OF THIS IS IN THE CTR FIELD. IN ADDITION, THERE EXIST MORE FORMAL ARRANGEMENTS BETWEEN USAEC AND ORGANIZATIONS WITHIN THE MEMBER STATES, E. G., UKAEA ON FAST BREEDER REACTORS; FRG' S KARLSRUHE AND INTERATOM RESEARCH CENTERS ON FAST BREEDER REACTORS; THE DRAGON HTGR; KFA (JULICH) HTGR. THE USAEC ALSO PARTICIPATES IN THE MARVIKEN REACTOR CONTAINMENT TESTS (SWEDEN AND OTHERS OUTSIDE THE EC ALSO ARE INVOLVED) AND IN A CONSOLIDATED EXCHANGE WITH THE FRENCH CEA.

8. RE PARA 2(C) OF REFTEL, THE MOST SIGNIFICANT EC COOPERATION WITH OTHER THIRD COUNTRIES ON ENERGY RELATED R&D IS THROUGH THE OECD.

9. IN THE MISSION' S VIEW, THE CURRENT R&D EFFORT OF THE EC IS ADEQUATELY COVERED BY US COOPERATIVE INTERFACE IN ONE WAY OR ANOTHER. HOWEVER, THERE IS A GOOD LIKELIHOOD THAT EC CURRENT

AND/ OR EXPECTED PROPOSALS FOR ADDITIONAL R& D ACTIVITIES WILL PROVIDE OPPORTUNITIES FOR EXPANDED US COOPERATION WITH THE EC IN THE ENERGY FIELD., E. G., ON ENVIRONMENTAL PROBLEMS AND ON SPECIFIC ENERGY PROJECTS OF THE SORT MENTIONED IN PARA 5 ABOVE. IT WILL UNDOUBTEDLY TAKE SOME TIME FOR THE COMMISSION TO OBTAIN EC MEMBER STATE APPROVAL FOR ANY OF THESE PROSPECTIVE ACTIVITIES. IN THE MEANTIME, OPPORTUNITIES FOR EXPANDED BILATERAL COOPERATION IN MANY OF THESE AREAS, WE FEEL, CURRENTLY EXIST WITH THE MEMBER STATES AND SHOULD BE EXPLORED, E. G., COAL GASIFICATION, REACTOR SAFETY, AND VARIOUS ENVIRONMENTAL PROJECTS. THESE OPPORTUNITIES SHOULD, IN OUR VIEW, BE CONFIRMED WHEN THE INVENTORIES OF ENERGY RELATED R& D PROJECTS IN THE MEMBER STATE NATIONAL PROGRAMS ARE COMPLETED AND AVAILABLE. ANS BILATERAL COOPERATION UNDERTAKEN WITH THE MEMBER STATES CAN BE COUCHED IN TERMS OF BEING FOLDED UNDER US- EC COOPERATION SHOULD SUCH DEVELOP IN THE FUTURE, AS HAS BEEN THE APPROACH USED IN THE PAST, E. G., IN THE INITIAL FAST BREEDER REACTOR R& D COOPERATION IN THE MID-1960' S. SUCH APPROACHES TO COOPERATION BILATERALLY WITH MEMBER STATES COULD ENHANCE THE EC ABILITY AT LEAST TO COORDINATE COMMUNITY R& D IN CERTAIN AREAS. INSTIUTIONAL FRAMEWORKS FOR EXPANDED R& D COOPERATION WITHIN THE EC SHOULD BE OF SECOND- ORDER CONCERN, AND SHOULD LIMITED OFFICIAL USE
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EVOLVE NATURALLY, TO THE DEGREE NECESSARY, AFTER AGREEMENT, IN PRINCIPLE, TO THE AREAS OR COOPERATION. TO GIVE UNDUE ATTENTION TO THE INSTITUTIONAL CONSIDERATIONS AT THE OUTSET RUNS THE RISK OF DELAYING IMPLEMENTATION OF COOPERATION.

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DODE-00 PM-09 H-02 INR-10 L-03 NSAE-00 NSC-10 PA-03

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10. THE MISSION SUGGESTS THAT WASHINGTON EXPLORE AS EXTENSIVELY AS POSSIBLE WITH EC COMMISSION VICE PRESIDENT SIMONET DURING HIS VISIT LATER THIS MONTH WITH RESPECT TO POSSIBLE US- EC COOPERATION IN SPECIFIC AREAS. IF POSSIBLE, SIMONET MIGHT BE PRESENTED A LIST OF ACTIVITIES WHICH THE US IS PREPARED TO EXPLORE WITH THE EC FOR DEFINITIVE COOPERATIVE UNDERTAKINGS BUT AT THE SAME TIME OUR OPTIONS SHOULD BE KEPT OPEN TO MOVE AHEAD BILATERALLY WITH THE MEMBER STATES WHEREVER CIRCUMSTANCES WARRANT.

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1. PAST EXPERIENCE WOULD SEEM TO CALL FOR CAREFUL CONSIDERATION OF THE EXTENT AND DEGREE OF R& D COOPERATION THE US WANTS TO PROMOTE IN THE OECD/ NEA FORUM. THE OECD COULD PERHAPS SERVE A USEFUL PURPOSE AS A CLEARINGHOUSE FOR EXCHANGING R& D RESULTS OR TO UNDERTAKE STUDIES OF VARIOUS SORTS- SUPPLY- DEMAND FORECASTS; COMPARISONS OR REGULATIONS, STANDARDS, AND LAWS; ETC. HOWEVER, AS AN INSTRUMENT FOR PROMOTING OPERATIONAL RESEARCH AND DEVELOPMENT, IT HAS NOT BEEN A PARTICULARLY ATTRACTIVE VEHICLE IN THE PAST FOR A VARIETY OF REASONS, NOT THE LEAST OF WHICH IS THE DIVERSITY OF INTERESTS AND CAPABILITIES REPRESENTED BY THE 23 NATIONS.
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